Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (original): A method for measuring the acoustic damping capacity of a layered honeycomb structure, the method comprising:

tapping the honeycomb structure with a tapping rod, thereby imparting mechanical energy to the honeycomb structure;

measuring, for a time interval, energy reflected from the honeycomb structure as a result of the tapping;

creating a time-energy profile based on the energy reflected from the honeycomb structure during the time interval; and

evaluating the time-energy profile to determine the acoustic damping capacity of the honeycomb structure.

Claim 2 (original): A method for measuring the damping capacity of a prosthetic dental implant structure to determine the stability of the implant structure, the method comprising:

tapping the implant structure with a tapping rod, thereby imparting mechanical energy to the implant structure;

measuring, for a time interval, energy reflected from the implant structure as a result of the tapping;

creating a time-energy profile based on the energy reflected from the implant structure during the time interval; and

evaluating the time-energy profile to determine the damping capacity of the implant structure.

Claim 3 (original): A method for measuring the damping capacity of a tooth to assess the tooth health, the method comprising:

tapping the tooth with a tapping rod, thereby imparting mechanical energy to the tooth;

measuring, for a time interval, energy reflected from the tooth as a result of the tapping;

creating a time-energy profile based on the energy reflected from the tooth during the time interval; and

evaluating the time-energy profile to determine the damping capacity of the tooth.

Claim 4 (original): A method for determining a damping capacity of an object, the method comprising:

tapping the object with a tapping rod, thereby imparting mechanical energy to the object;

measuring, for a time interval, energy reflected from the object as a result of the tapping;

creating a time-energy profile based on the energy reflected from the object during the time interval; and

evaluating the time-energy profile to determine the damping capacity of the object.

Claim 5 (original): The method of Claim 4, wherein evaluating the time-energy profile further comprises evaluating the symmetry of a pulse of energy reflected from the object.

Claim 6 (original): The method of Claim 4, wherein evaluating the time-energy profile further comprises counting the number of energy maxima reflected after the object is tapped.

Claim 7 (original): The method of Claim 4, wherein evaluating the time-energy profile further comprises evaluating a force applied to the tapping rod during tapping as a function of displacement of the object.

Claim 8 (original): The method of Claim 4, wherein the tapping rod is positioned within a housing that is mounted in contact with the object.

Claim 9 (original): The method of Claim 4, wherein the tapping rod is oriented substantially perpendicular with respect to a surface of the object.

Claim 10 (original): The method of Claim 4, wherein the object is held in compression during the tapping.

Claim 11 (original): A method comprising:

tapping an object, thereby imparting mechanical energy to the object;

measuring energy reflected from the object as a result of the tapping;

creating a time-energy profile of the energy reflected from the object; and

evaluating the time-energy profile to make a determination regarding the structural characteristics of the object.

Claim 12 (original): The method of Claim 11, wherein the object is held in compression during the tapping.

Claim 13 (original): The method of Claim 11, wherein evaluating the time-energy profile further comprises evaluating the symmetry of a reflected energy pulse.

Claim 14 (original): The method of Claim 11, wherein a cylindrical tapping rod is used to tap the object.

Claim 15 (original): The method of Claim 11, wherein a cylindrical tapping rod is used to tap the object, and wherein the tapping rod is oriented substantially perpendicular with respect to a surface of the object.

Claim 16 (original): The method of Claim 11, wherein a cylindrical tapping rod is used to tap the object, and wherein the tapping rod is positioned within a housing that is mounted in contact with the object.

Claim 17 (original): The method of Claim 11, wherein evaluating the time-energy profile further comprises counting the number of energy maxima reflected after the object is tapped.

Claim 18 (original): The method of Claim 11, wherein evaluating the time-energy profile further comprises making a determination of the damping capacity of the object.

Claim 19 (original): The method of Claim 11, wherein evaluating the time-energy profile further comprises evaluating a force applied to the tapping rod during tapping as a function of displacement of the object.

Claim 20 (original): The method of Claim 11, wherein the object is a tooth.

Claim 21 (original): The method of Claim 11, wherein the object is a prosthetic dental implant structure.

Claim 22 (original): The method of Claim 11, wherein the object comprises a layered honeycomb structure.

Claim 23 (original): A system for providing information regarding the damping capacity of an object, the system comprising:

a test probe housing a movable impact rod, the test probe mounted against the object;

an accelerometer configured to detect energy reflected from the object after the impact rod impacts the object; and

a computer coupled to the accelerometer, the computer configured to generate and display a time-energy profile of the reflected energy as detected by the accelerometer.

Claim 24 (original): The system of Claim 23, wherein the object is a tooth.

Claim 25 (original): The system of Claim 23, wherein the object is a prosthetic dental implant structure.

Claim 26 (original): The system of Claim 23, wherein the object comprises a layered honeycomb structure.

Claim 27 (original): The system of Claim 23, further comprising a data analyzer to evaluate the symmetry of a reflected energy pulse detected by the accelerometer.

Claim 28 (original): The system of Claim 23, further comprising a data analyzer to count the number of energy maxima reflected after the impact rod impacts the object.

Claim 29 (original): The system of Claim 23, wherein the impact rod is oriented substantially perpendicular with respect to a surface of the object.

Claim 30 (original): The system of Claim 23, further comprising a vise configured to hold the object in compression when the impact rod impacts the object.

Claim 31 (new): A method comprising:

tapping a structure with a tapping rod, thereby imparting mechanical energy to the structure, wherein the structure is anchored in a foundation;

measuring energy reflected from the structure as a result of the tapping;

creating a time-energy profile of the energy reflected form the structure; and

evaluating the time-energy profile to make a determination regarding the stability of the structure in the foundation.

Claim 32 (new): The method of Claim 31, wherein the determination regarding the stability of the structure in the foundation is a level of osseointegration of the structure within the foundation.

Claim 33 (new): The method of Claim 31, wherein the structure is a medical implant structure implanted into a patient's body.

Claim 34 (new): The method of Claim 31, wherein the structure is a dental implant structure.

Claim 35 (new): The method of Claim 31, wherein evaluating the time-energy profile further comprises evaluating the symmetry of a pulse of energy reflected from the object.

Claim 36 (new): The method of Claim 31, wherein evaluating the time-energy profile further comprises counting the number of energy maxima reflected after the object is tapped.

Claim 37 (new): The method of Claim 31, wherein the foundation is a ligament structure.